WATER SUMMIT 2007

July 30, 2007

GLOSSARY OF WATER MANAGEMENT TERMS

Acre-foot: The volume of water that covers one acre to a depth of one foot; 43,560 cubic feet; 1,233.5 cubic meters; 325,872 gallons. One foot of water on Lake Okeechobee is equivalent to about 450,000 acre-feet when the lake's water level is 15 feet NGVD; less water can be stored the lower the lake stage.

Adaptive management: The application of scientific information and explicit feedback mechanisms to refine and improve future management decisions.

Alternative Water Supply: A supply of water that has been reclaimed after one or more public supply, municipal, industrial, commercial or agricultural uses; or a supply of stormwater, or brackish or salt water, that has been treated in accordance with applicable rules and standards sufficient to supply the intended use.

Anoxic: Denotes the absence of oxygen.

Aquifer: An underground bed or layer of earth, gravel, or porous stone that yields water.

Atlantic Multidecadal Oscillation (AMO): A cyclic variation in the large-scale atmospheric flow and ocean currents in the North Atlantic Ocean that combine to alternately increase and decrease Atlantic sea surface temperatures (SSTs). The cool and warm phases that may last for 20-40 years at a time have a difference of about 1°F between extremes. These changes are natural and have been occurring for at least the last 1,000 years.

Average Rainfall Year: A year having rainfall with a 50 percent probability of being exceeded over a 12-month period.

Backpumping: The practice of actively pumping water leaving an area back into a surface water body.

Basin (Groundwater): A hydrologic unit containing one large aquifer or several connecting and interconnecting aquifers.

Basin (Surface Water): A tract of land drained by a surface water body or its tributaries.

Best Management Practices (BMPs): Agricultural management activities designed to achieve an important goal, such as reducing farm runoff or optimizing water use.

Biscayne Aquifer: A portion of the Surficial Aquifer System, which provides most of the fresh water for public water supply and agriculture within Miami-Dade, Broward and southeastern Palm Beach County. It is highly susceptible to contamination due to its high permeability and proximity to land surface in many locations.

Boulder Zone: A highly transmissive, cavernous zone of limestone within the lower Floridan Aquifer.

Brackish: Water with a chloride (salt) level greater than 250 milligrams per liter (mg/L) and less than 19,000 mg/L.

Capacity: Capacity represents the ability to treat, move or reuse water. Typically capacity is expressed in million gallons per day (MGD).

Central and Southern Florida Project (C&SF Project): A complete system of canals, storage areas and water control structures spanning the area from Lake Okeechobee to both the east and west coasts and from Orlando south through the Everglades to Florida Bay. It was designed and constructed during the 1950s by the United States Army Corps of Engineers (USACE) to provide flood control and improve navigation and recreation.

CFS: cubic feet per second (see below)

Comprehensive Everglades Restoration Plan (CERP): The implementation of recommendations made within the Restudy, that is, structural and operational modifications to the C&SF Project are being further refined and will be implemented through this plan.

Consumptive Use: Use that reduces an amount of water in the source from which it is withdrawn.

Consumptive Use Permit (CUP): A permit issued by the SFWMD under authority of Chapter 40E-2, F.A.C., allowing withdrawal of water for consumptive use.

Control Structure: A man-made structure designed to regulate the level/flow of water in a canal or water body (e.g., weirs, dams).

Cubic Feet Per Second (CFS): The rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and equivalent to 7.48 gallons per second or 448.8 gallons per minute.

Cynobacteria: Blue-green algae.

Demand: The quantity of water needed to be withdrawn to fulfill a requirement.

Desalination: A process that treats saline water to remove chlorides and dissolved solids, resulting in the production of fresh water.

Discharge (or Flow): The rate of water movement past a reference point, measured as volume per unit time (usually expressed as cubic feet or cubic meters per second).

Dissolved Oxygen: The concentration of oxygen dissolved in water, sometimes expressed as percent saturation, where saturation is the maximum amount of oxygen that theoretically can be dissolved in water at a given altitude and temperature.

Drainage District: A locally constituted drainage, water management or water control district that is created by special act of the legislature and authorized under Ch. 298 F.S., to constrict, complete, operate, maintain, repair and replace any and all works necessary to implement an adopted water control plan.

Drawdown: The vertical distance a water level is lowered resulting from a withdrawal at a given point.

Ecosystem: Biological communities together with their environment, functioning as a unit.

El Niño: A phase of the ocean-atmosphere oscillation in the Pacific Ocean characterized by unusually warm ocean temperatures in the equatorial Pacific and resulting in important consequences for weather around the globe; this condition typically brings rain and flooding to the U.S. gulf states.

El Niño Southern Oscillation (ENSO): An oscillation of the tropical atmosphere and ocean system that occurs somewhat regularly, generally every 3-7 years. The ENSO cycle includes three phases: the La Niña, the neutral and El Niño phase. The ENSO oscillation affects the global climate in varies ways. El Niño phase of this cycle is characterized by unusually warm ocean temperatures in the central and eastern equatorial Pacific Ocean. In Florida El Nino increases the chances of above normal rainfall in the dry season. La Niña has unusually cool ocean temperatures in the central and eastern equatorial Pacific Ocean. La Nina increases the chances of below normal rainfall in the dry season.

Environmental Resource Permit (ERP): A permit issued by the SFWMD under authority of Chapter 40E-4 F.A.C. to ensure that land development projects do not cause adverse environmental, water quality or water quantity impacts.

Estuary: The part of the wide lower course of a river where its current is met by ocean tides or an arm of the sea; a water passage at the lower end of a river where fresh and salt water meet.

Eutrophication: The gradual increase in nutrients in a body of water. Natural eutrophication is a gradual process, but human activities may greatly accelerate the process.

Evapotranspiration (ET): Water losses from the surface of water and soils (evaporation) and plants (transpiration).

Everglades Agricultural Area (EAA): The area south of Lake Okeechobee used for agricultural production; specifically, the area extending south from Lake Okeechobee to the northern levee of Water Conservation Area 3A and from its eastern boundary at the L-8 canal to the western boundary along the L-1, L-2, and L-3 levees. The EAA comprises almost 3,000 square kilometers (1,158 square miles) of highly productive agricultural land.

Everglades Forever Act (EFA): A 1994 Florida law (Section 373.4592, Florida Statutes), amended in 2003, to promote Everglades restoration and protection. This will be achieved through comprehensive and innovative solutions to issues of water quality, water quantity, hydroperiod, and invasion of exotic species to the Everglades ecosystem.

Everglades Protection Area (EPA): As defined in the Everglades Forever Act, the EPA is comprised of Water Conservation Areas 1, 2A, 2B, 3A, and 3B, the Arthur R. Marshall Loxahatchee National Wildlife Refuge, and Everglades National Park.

Exotic Plant Species: A nonnative species that tends to outcompete native species and become quickly established, especially in areas of disturbance or where the normal hydroperiod has been altered.

Florida Administrative Code (F.A.C.): The Florida Administrative Code is the official compilation of the administrative rules and regulations of state agencies.

Florida Department of Agricultural and Consumer Services (FDACS): FDACS communicates the needs of the agricultural industry to the Florida Legislature, the FDEP, and the water management districts, and ensures participation of agriculture in the development and implementation of water policy decisions. FDACS also oversees Florida's soil and water conservation districts, which coordinate closely with the federal Natural Resources Conservation Service (NRCS).

Florida Department of Environmental Protection (FDEP): The SFWMD operates under the general supervisory authority of the FDEP, which includes budgetary oversight.

Florida Statutes (F.S.): The Florida Statutes are a permanent collection of state laws organized by subject area into a code made up of titles, chapters, parts and sections. The Florida Statutes are updated annually by laws that create, amend or repeal statutory material.

Floridan Aquifer System (FAS): A highly-used aquifer system composed of the Upper Floridan and Lower Floridan Aquifers. It is the principal source of water supply north of Lake Okeechobee and the upper Floridan Aquifer is used for drinking water supply in parts of Martin and St. Lucie Counties. From Jupiter to south Miami, water from the Floridan Aquifer System is mineralized (total dissolved solids are greater than 1,000 mg/L) along coastal areas and in southern Florida.

Flow: The actual amount of water flowing by a particular point over some specified time. In the context of water supply, flow represents the amount of water being treated, moved or reused. Flow is frequently expressed in millions of gallons per day (MGD).

Food Web: The totality of interacting food chains in an ecological community.

Geographic Information Systems (GIS): The abstract representation of natural (or cultural) features of a landscape into a digital database, geographic information system.

Governing Board: Governing Board of the South Florida Water Management District.

GPD: Gallons per day.

GPM: Gallons per minute.

Groundwater: Water beneath the soil surface, whether or not flowing through known and definite channels.

Groundwater Heads: Elevation of water table.

Hydropattern: The pattern of inundation or saturation of an ecosystem.

Hydroperiod: The frequency and duration of inundation or saturation of an ecosystem. In the context of characterizing wetlands, the term hydroperiod describes that length of time during the year that the substrate is either saturated or covered with water.

Irrigation: The application of water to crops and other plants by artificial means.

La Niña: A disruption of the ocean-atmosphere system in the Pacific Ocean characterized by unusually cool ocean temperatures in the Equatorial Pacific and resulting in important consequences for weather around the globe; this pattern typically brings below-average rain and possibly drought conditions to the U.S. Gulf States.

Lagoon: A body of water separated from the ocean by barrier islands, with limited exchange with the ocean through inlets.

Lake Okeechobee: Measuring 730 square miles, the second largest freshwater lake wholly within the United States.

Levee: An embankment to prevent flooding or a continuous dike or ridge for confining the irrigation areas of land to be flooded.

Level of Certainty: Probability that the demands for reasonable-beneficial uses of water will be fully met for a specified period of time (generally taken to be one year) and for a specified condition of water availability (generally taken to be a drought event of a specified return frequency).

Littoral: Of, relating to, situated or growing on or near a shore.

Loading (or mass loading): The amount of material carried by water into a specified area, expressed as mass per unit of time. One example is phosphorus loading into Water Conservation Area 2A, measured in metric tons per year.

Marsh: A frequently or continually inundated non-forested wetland characterized by emergent herbaceous vegetation adapted to saturated soil conditions.

Metric Ton (mt): A volumetric unit of measurement equivalent to 1,000 kilograms or 2,205 pounds.
MGD: Millons of gallons per day.

Mg/L: Milligrams per liter.

MGY: Millions of gallons per year.

Minimum Flow and Level (MFL): The point at which further withdrawals would cause significant harm to the water resources/ecology of the area.

National Geodetic Vertical Datum (NGVD): A nationally established reference for elevation data; usually measured in feet, the elevation above or depth below mean sea level.

Pacific Decadal Oscillation (PDO): A recently discovered pattern of climate variability in the Pacific Ocean that waxes and wanes approximately every 20 to 30 years. The PDO is detected as warm or cool surface waters in the Pacific Ocean, north of 20° N. During a "warm" or "positive" phase, the eastern Pacific Ocean warms; during a "cool" or "negative" phase, the opposite pattern occurs. The change in location of the cold and warm water masses alters the path of the jet stream, which in turn may have far-reaching climatic consequences. When the PDO is in the cool phase, La Niña events predominate; When the PDO is in the warm phase, El Niño events predominate.

Phosphorus: An element that is essential for life. In freshwater environments, phosphorus is often in short supply; increased levels of this nutrient can promote the growth of algae and other plants.

Phytoplankton: The floating, usually minute, plant life of a body of water.

Potable Water: Water that is safe for human consumption. The maximum chloride concentration is 250 milligrams/liter.

Public Water Supply (PWS): Utilities that provide potable water for public use.

Reclaimed Water: Water that has received at least secondary treatment and basic disinfection and is reused after flowing out of a domestic wastewater treatment facility.

Regional Water Supply Plan: Detailed water supply plan developed by the District under Section 373.0361, F.S., providing an evaluation of available water supply and projected demands, at the regional scale. The planning process projects future demand for 20 years and develops strategies to meet identified needs.

Regulation Schedule: a federally authorized tool used by water managers to manage the water levels in a lake or reservoir.

Reservoir: A man-made or natural water body used for water storage.

Retrofit: The replacement of existing equipment with equipment of higher efficiency.

Retrofitting: The replacement of existing water fixtures, appliances and devices with more efficient fixtures, appliances and devices for the purpose of conservation.

Saltwater Intrusion: This occurs when more dense saline water moves laterally inland from the seacoast, or moves vertically upward, to replace fresher water in anaquifer.

Seawater: Water which has a chloride concentration (salt) qual to or greater than 19,000 milligrams per liter.

Stage: The height of a water surface above an established reference point.

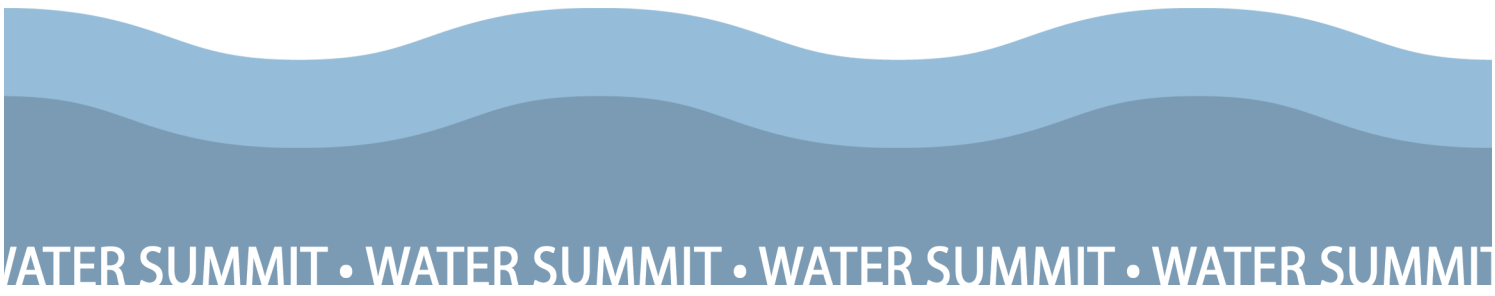
Stormwater Treatment Area (STA): A large, constructed wetland designed to remove pollutants, particularly nutrients such as phosphorus, from stormwater runoff using natural processes.

South Florida Water Management District (SFWMD): A regional, governmental agency that oversees the water resources in the southern half of the state - 16 counties from Orlando to the Keys. It is the oldest and largest of the state's five water management districts. The agency mission is to manage and protect water resources of the region by balancing and improving water quality, flood control, natural systems and water supply. A key initiative is cleanup and restoration of the Everglades.

Water Conservation Areas (WCAs): These are three diked areas of the remnant Everglades that are hydrologically controlled for flood control and water supply purposes. The primary targets of the Everglades restoration, and major components of the Everglades Protection Area.

Water Supply/Environmental Regulation Schedule (WSE): a federally authorized tool used by the U.S. Army Corps of Engineers, with input from the South Florida Water Management District, to manage the water levels in Lake Okeechobee. Water releases from Lake Okeechobee to the estuaries are made in accordance with the WSE.

Watershed: A region or area bounded peripherally by a water parting and draining ultimately to a particular watercourse or body of water.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